REMARKS

Claims 1-29 are currently pending in the subject application, and are presently under consideration. Claims 15-20 are allowed. Claims 1-3, 8, 12-14, 21, 2, 24-26, 28 and 29 are rejected. Claims 4-6, 9-11, 23 and 27 have been indicated as allowable. Claims 1 and 21 have been amended and claims 7 and 23 have been cancelled. Favorable reconsideration of the application is requested in view of the amendments and comments herein.

I. Rejection of Claims 1-3, 7, 8, 12-14, 21, 22, 24-26, 28 and 29 Under 35 U.S.C. §102(b)

Claims 1-3, 7, 8, 12-14, 21, 22, 24-26, 28 and 29 stand rejected under 35 U.S.C. §102(b) as being anticipated by Budnik (U.S. 6,043,707). Withdrawal of this rejection is respectfully requested for at least the following reasons.

Claim 1 has been amended to include the element of canceled claim 7 and recites that the power amplifier is an amplifier of a linear class type that operates as a constant class amplifier. Budnik discloses a variable-class amplifier that applies changes in bias and drive (supply) level to provide a supply type of envelope modulation at medium to high envelope amplitudes and allowing the amplifier to transition to highly efficient but non-linear classes of operation, such as Class C, D, E or F (Col. 4, ll. 9-14, Col. 7, ll. 24-26). Each of the amplifiers (e.g., 494 of FIG. 6, 6 of FIG. 8, 106 of FIG. 9) disclosed in Budnik operate in a non-linear class, while applying supply type envelope modulation. In contrast, claim 1 recites a power amplifier of a linear class type that operates as a constant class amplifier that includes a mode selector that controls operation of the amplifier between a polar mode and a linear mode. Therefore, Budnik does not disclose each and every element of claim 1, and claim 1 is not anticipated by Budnik.

Claims 2-3, 8 and 12-14 depend directly or indirectly from claim 1, and contain each and every element of claim 1. Therefore, claims 2-3, 8 and 12-14 are not anticipated by Budnik.

Additionally, claim 2 depends from claim 1 and further recites that the mode selector transmits a phase modulated signal component of the input signal to the input terminal and an amplitude modulated signal component of the input signal to the supply terminal during polar mode operation, and the mode selector transmits a composite signal component to the input

terminal and a substantially constant amplitude signal component to the supply terminal during linear mode operation.

Claim 25 recites transmitting a phase modulated component of the input signal to an input terminal of a power amplifier and an amplitude modulated component of the input signal to a supply terminal of the power amplifier during polar mode operation, and transmitting a composite signal to the input terminal and a constant amplitude component to the supply terminal during linear mode operation.

Budnik discloses providing a composite signal (490 of Fig. 6) to an input and a modulation waveform (498 of Fig. 6) to a supply terminal of a variable class final stage amplifier during envelope modulation. Budnik discloses (col. 7, ll. 24-35) that as power is increased to high levels, the bias path 205 is altered to bias the RF PA 6 into a nonlinear class of operation (such as Class C), and that nearly all amplitude corrective feedback is applied to the envelope supply modulation path 206 and very little to the forward RF path 202 since the highly nonlinear classes of operation are largely unresponsive to amplitude variations in the path 202. Budnik is not concerned with amplitude variations in the input to the amplifier, since the amplifier is changed to a nonlinear class of operation and nonlinear classes of amplifiers are largely unresponsive to amplitude variations in the input to the amplifier. Therefore, Budnik does not disclose providing polar components of an input signal in the form of a phase modulated component of the input signal to an input terminal of a power amplifier and an amplitude modulated component of the input signal to a supply terminal of the power amplifier during polar mode operation, as recited in claims 2 and 25.

Claims 26, 38 and 29 depend directly or indirectly from claim 25, and contain each and every element of claim 25. Therefore, claims 26, 38 and 29 are not anticipated by Budnik.

Claim 21 has been amended to include the element recited in allowable claim 23. Therefore, claim 21 and claims 22 and 24, which depend therefrom should be allowable.

For the reasons described above, claims 1-3, 8, 12-14, 21, 22, 24-26, 28 and 29 should be patentable over the cited art. Accordingly, withdrawal of this rejection is respectfully requested.

II. Rejection of Claims 1, 13, 14, 21 and 26 Under 35 U.S.C. §102(b)

Claims 1, 13, 14, 21 and 26 stand rejected under 35 U.S.C. §102(b) as being anticipated by Midya, et al. (U.S. 6,141,541). Withdrawal of this rejection is respectfully requested for at least the following reasons.

Midya discloses an envelope follower or envelope tracking amplifier. Envelope tracking is a well known technique. An envelope tracking amplifier provides a supply voltage that follows the amplitude of the input signal, while maintaining a guard band above the amplitude of the input signal. In this manner, the linear amplifier does not have to maintain a constant supply voltage that is above the peak amplitudes of an input signal, such that the efficiency of the amplifier is increased relative to linear operation, while keeping the amplifier out of compression.

Midya does not disclose an amplifier system that switches between a polar mode and a linear mode based on a characteristic of an input signal, as recited claims 1, 21 and 26. An amplifier that operates in a polar mode provides amplitude variations of an input signal by modulating the supply voltage according to an amplitude modulated signal component of the input signal, while providing phase variations of an input signal according to a phase modulated signal component through an input of the amplifier to reproduce the input of the amplifier at its output as an amplified version of the input signal. An amplifier that operates in polar mode operates at or near compression, and both the amplitude modulated signal component and the phase modulated signal component are information bearing components of the input signal. The amplifier system in Midya always operates as an envelope tracker, such that the amplitude of the supply follows the input signal and a composite input signal is provided to the input of the

amplifier. The envelope tracking supply voltage component does not carry information associated with the input signal.

Therefore, Midya does not disclose an amplifier system that switches between a polar mode and a linear mode based on a characteristic of an input signal relative to a threshold, as recited in claims 1, 21 and 25. Claims 13-14 and 26 depend directly or indirectly from claims 1 and 25 respectively, and contain each and every element of claims 1 and 25. Therefore, claims 13-14 and 26 are not anticipated by Midya.

For the reasons described above, claims 1, 13, 14, 21 and 26 should be patentable over the cited art. Accordingly, withdrawal of this rejection is respectfully requested.

CONCLUSION

In view of the foregoing remarks, Applicant respectfully submits that the present application is in condition for allowance. Applicant respectfully requests reconsideration of this application and that the application be passed to issue.

Please charge any deficiency or credit any overpayment in the fees for this amendment to our Deposit Account No. 20-0090.

Respectfully submitted,

Date 1/13/05

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